U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos. 50-528/86-01, 50-529/86-01 and 50-530/86-01

Docket Nos. 50-528, 50-529 and 50-530

License Nos. NPF-41 and NPF-46

Construction Permit No. CPPR-143

Licensee: Arizona Nuclear Power Project
P. O. Box 52034
Phoenix, Arizona 85072-2034

Facility Name: Palo Verde Nuclear Generating Station - Units 1, 2 and 3

Inspection at: Palo Verde Site, Wintersburg, Arizona

Inspection conducted: January 6 through January 10, 1986

Inspectors: R C Sorensen — 1/21/86
R. C. Sorensen, Reactor Inspector — Date Signed

W.J. Wagner — 1/21/86
W. Wagner, Reactor Inspector — Date Signed

Approved By: J Miller — 1/21/86
L. P. Miller, Jr., Chief — Date Signed
Reactor Projects Section 2

Summary:

Inspection on January 6 through January 10, 1986 (Report Nos. 50-528/86-01 50-529/86-06 and 50-530/86-01)

Areas Inspected: Routine, unannounced inspection by regional based inspectors of TMI Action Plan items and operational safety in Unit 2, 100% load rejection test and licensee action on inspector identified items in Unit 1, and preoperational test program implementation in Unit 3. NRC Inspection Procedures 25401B, 92701, 72300, 72302, 71707, 70302, 92702, and 30703 were covered during this inspection. The inspection of Units 1, 2 and 3 involved 72 inspector hours onsite by two NRC inspectors.

Results: No violations or deviations were identified.

DETAILS

1. Persons Contacted

Arizona Nuclear Power Project (ANPP)

*L. Souza, Assistant Director, Corporate QA/QC
W. Jump, Startup Manager, Unit 3
A. McCabe, Assistant Startup Manager, Unit 3
*R. Ozment, Manager, Startup Administration
R. Taylor, Shift Supervisor, Unit 2
R. Baron, Supervisor, Quality Test Monitoring
*S. Penick, Supervisor, Quality Monitoring
D. LeBoeuf, QA Engineer
W. Gratza, QA Engineer

*Denotes those individuals attending exit meeting of January 10, 1986.

In addition, the inspectors talked with other licensee, contractor and craft personnel during the course of the inspection.

2. TMI Action Plan Items for Unit 2

The inspector reviewed the items below which represent a portion of a comprehensive and integrated plan to improve safety following the events at Three Mile Island Unit 2 in March 1979 (The item numbers are from Enclosure 2 of NUREG-0737).

(Closed) I.C.1 Short Term Accident and Procedures Review

The licensee revised their emergency procedures to conform to the guidelines of CEN-152, Rev. 02, Combustion Engineering Owners Group Emergency Procedure Guidelines. The inspector reviewed the emergency procedures to ensure the revised guidelines had been implemented. The revisions incorporated the use of the trip two/leave two reactor coolant pump scheme for a safety injection. Also incorporated was operator verification of adequate core cooling during emergency conditions by periodically monitoring certain plant parameters.

The inspector was satisfied that the licensee had complied with the recommendations of this TMI item and it is closed.

(Closed) II.B.4 Training for Mitigating Core Damage

The inspector reviewed lesson plans for operator training in Mitigating Core Damage. All the topics recommended by the Denton letter of March 28, 1980, were included as classroom instruction or simulator training. In addition, the inspector confirmed, through class attendance records, that this training was provided for personnel in the training path for becoming licensed operators.

Finally, the inspector also confirmed that Mitigating Core Damage Training was administered to Radiation Protection personnel, Radwaste and Chemistry personnel, and I&C Technicians.

This item is closed.

(Closed) II.D.3 Direct Valve Position Indication for Pressurizer Safety Valves

The licensee completed the calibration and testing of the acoustic monitoring system per procedure 36ST-9ZZ08. The inspector reviewed the completed procedure for adequacy.

The procedure appeared to have been performed properly and the proper signatures were present. Where leads were lifted, independent verification was performed for the relanded leads.

The inspector was satisfied that the licensee had implemented the recommendations of this TMI Action Plan item.

This item is closed.

(Closed) II.K.3.5 Auto Trip of Reactor Coolant Pumps (RCPs)

This Action Plan item originally directed licensees to trip all RCPs in the event of a small break loss-of-coolant accident (LOCA) until further guidance was provided.

The licensee has now implemented a course of action in their emergency procedures where two RCPs were tripped and two were left running in the event of a safety injection actuation signal (SIAS).

This new approach by the licensee was acceptable, since it was part of improvements made by CEN-152, Rev. 02, which was approved by the Office of Nuclear Reactor Regulation. Therefore, the licensee has satisfactorily implemented the provisions of this Action Plan item.

This item is closed.

3. 100% Load Rejection Test at Unit 1

The inspector observed control room operations prior to and during the conduct of the 100% load rejection test. As required by procedure, the operators took very little action and allowed automatic actions by plant systems to control the transient. The operators kept the shift supervisor informed of plant response and various activities during the transient.

The trainsient was initiated by opening the output breaker on the main generator. The Reactor Power Cutback System tripped one group of four control element assemblies, reducing reactor power, and the Steam Bypass Control System allowed steam flow to match the remaining reactor power output. The inspector observed no turbine trip and no reactor trip during the transient.

A subsequent review of the test data showed that all acceptance criteria for various plant parameters had been met.

No violations or deviations were identified.

4. Preoperational Test Program Implementation for Unit 3

The inspector interviewed the Unit 3 Startup Manager to determine his overall knowledge of the Startup Test Program at Palo Verde.

The inspector first reviewed licensee procedures applicable to the conduct of the startup program, then questioned the Startup Manager to ascertain his knowledge of these procedures. Areas covered included responsibilities of various personnel, chain of command, organizational interfaces, system turnovers from construction to startup to operations, review and approval of test procedures, functioning of the Test Working Group (TWG) and criteria for selection of personnel to fill responsibilities.

The Startup Manager was knowledgeable in these areas and appeared to the inspector to understand the role of the Startup Department in ensuring reactor safety. The inspector noted that the former Startup Manager in Unit 2 was assigned as the Assistant Startup Manager in Unit 3 and could potentially be helpful in an advisory function.

No violations or deviations were identified.

5. Operational Safety Verification in Units 1 and 2

The inspector witnessed operations in the Unit 2 control room for adherence to procedures and operational safety. The unit was in Mode 5 with various work activities ongoing on the Control Element Drive Mechanisms and Heated Junction Thermocouples.

The inspector spoke with the shift supervisor who appeared to be knowledgeable of plant activities and current Technical Specification constraints. Control Room operator logs appeared to be detailed and in order, and the Turnover Checklists were properly used and signed.

Although limited numbers of control room instruments were in their normal operating ranges, the inspector compared various readings of instruments monitoring the same parameter for agreement.

The inspector toured the Diesel Generator building in Unit 1, including both diesel generators and the fuel lines to observe housekeeping practices and valve lineups. Housekeeping was generally good in this area.

No violations and deviations were identified.

6. Licensee Action on Previously Identified Items

(Closed) Notice of Violation No. 50-528/83-10-01 "Termination Cards Inaccurate"

The licensee's investigation into this matter concluded that the matter arose as a result of the need to replace certain electrical termination

cards which had been lost, and the absence of any procedure governing the replacement of such lost cards. The licensee reported that each of the terminations for which a replacement card was prepared was inspected by a QC Engineer after the craftsman had signed the replacement card. Also their investigation of the calibration records for the crimping tools has not revealed any case where crimping tools were out of calibration enough to affect the acceptability of crimps made with the tool.

The technical adequacy of the cable terminations in question was documented in NRC Inspection Report 50-528/83-10. The report concluded that as a result of a review of the termination cards, the termination inspection program, and interviews with QC personnel, that these terminations were inspected by QC. The report also stated that a review of the calibration records of hand type crimp tools indicted that there were no crimp tools of this type that failed the calibration check during the time period in question.

To prevent recurrence the licensee revised WPP/QCI 255.0 to proceduralize the replacement of lost or misplaced termination installation cards. In addition, electricians performing terminations were subsequently provided training on the revised WPP/QCI 255.0.

Verification of the corrective actions taken for this violation was documented in the Quality Monitoring Section Monitoring Report No. SM-85-0371.

This item is closed.

(Closed) Notice of Violation No. 50-528/84-15-01 "Qualification of Welders After-the-Fact"

This violation was previously reported in Inspection Reports 50-528/84-15 and 84-36. The licensee committed to establish a program for verification of welder qualifications that provided for a 100 percent review of ASME and AWS weld records and associated weld certification documentation. The licensee completed their investigation of the post-welder qualification work and concluded that no errors were detected in essential welder qualification variables which would jeopardize the original welder qualifications. This response was provided in letter ANPP-31713-TDS/PJC/WFQ of January 16, 1985. The NRC inspection of this effort is reported in Inspection Reports 50-528/84-56 and 85-46.

This item is closed.

(Closed) Followup Item No. 50-528/84-10-04 "HVAC Walkdown - Adequacy for Seismic Input"

The Waldinger Corporation had identified two problems which precluded the installed HVAC ducts from complying with the Bechtel established HVAC acceptance criteria for seismic conditions. These were, insufficient detail on Bechtel design drawings, and incorrect interpretations of the Bechtel design drawings and Field Change Requests by Waldinger. This is documented on DER No. 84-13. As a result of this DER, Bechtel established more detailed design and acceptance criteria issued through

the applicable DCPs. These DCPs were then utilized during the engineering walkdown in order to assure that the as-built documentation was sufficient for seismic reverification. DER No. 84-13 was reviewed and closed in NRC Inspection Report No. 50-528/85-01.

This item is closed.

(Closed) Followup Item No. 50-528/84-65-01 "ANPP to Perform 10 Percent Check of Non HVAC Junction Boxes"

The licensee committed to perform a 10 percent sample inspection of safety-related junction boxes for non-HVAC instrumentation. This activity was associated with the termination walkdown to support DER No. 84-27. The inspector reviewed Work Order 69255 which was initiated on December 20, 1984, to perform the inspections. Quality Monitoring Section Monitoring Report No. SM-85-0377 documented that this inspection was completed on December 27, 1984. The inspection was satisfactory with no discrepancies noted.

This item is closed.

7. Exit Meeting

The inspector met with the licensee representatives denoted in paragraph 1 on January 10, 1986. The scope of the inspection and the inspectors' findings as described in this report were discussed. Licensee representatives acknowledged the inspectors' findings.